

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A fuel injection valve, comprising:

a housing;

a core secured internally of said housing;

an electromagnetic coil disposed externally around said core,

a valve body of a substantially cylindrical form secured to said housing;

a rod-like valve element disposed to be reciprocatively movable within said valve body;

an armature secured to said valve element at one end thereof and attracted to said core upon electric energization of said electromagnetic coil; and

a valve seat disposed at one end of said valve body and having a seat portion against which other end face of said valve element bears and an injection port through which a fuel flows,

wherein a variable gap is formed between ~~an end face~~ a planate end face of a valve body-side of said armature and that of said valve body in such an arrangement that fuel flow path area of said variable gap is diminished as said valve element moves toward said valve seat.

2. (original): A fuel injection valve, comprising:

a housing;

a core secured internally of said housing;

an electromagnetic coil disposed externally around said core,

a valve body of a substantially cylindrical form secured to said housing;

a rod-like valve element disposed to be reciprocatively movable within said valve body;

an armature secured to said valve element at one end thereof and attracted to said core upon electric energization of said electromagnetic coil;

a cylindrical sleeve secured to said valve body at one end thereof on the side of said armature and projecting toward said armature; and

a valve seat disposed at other end of said valve body and having a seat portion against which other end face of said valve element bears and an injection port through which a fuel flows,

wherein a variable gap is formed between an end face of said armature and that of said sleeve in such a manner that fuel flow path area of said variable gap is diminished as said valve element moves toward said seat portion.

3. (currently amended): A fuel injection valve, comprising:

a housing;

a core secured internally of said housing;

an electromagnetic coil disposed externally around said core,

a valve body of a substantially cylindrical form secured to said housing;

a rod-like valve element disposed to be reciprocatively movable within said valve body;

an armature secured to said valve element at one end thereof and attracted to said core upon electric energization of said electromagnetic coil; and

a valve seat disposed at one end of said valve body and having a seat portion against which other end face of said valve element bears and an injection port through which a fuel flows,

wherein a variable gap is formed between an end face of said armature and that of said valve body in such an arrangement that fuel flow path area of said variable gap is diminished as said valve element moves toward said valve seat~~A fuel injection valve according to claim 1,~~

wherein a thin portion is formed in an outer peripheral portion of said armature for diminishing a magnetic flux path area.

4. (original): A fuel injection valve according to claim 3,

wherein said armature is fixedly secured to said valve element at said thin portion by welding.

5. (new): The fuel injection valve according to claim 2, wherein a length of said variable gap, when said rod-like valve element abuts said valve seat, is adjustable to at least two different lengths.